

Case 3387***Cancer setosus* Fabricius, 1798 (currently *Pseudograpsus setosus*; Crustacea, Decapoda): proposed replacement of a syntype by a neotype**

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Abstract. The purpose of this application, under Article 75.5 of the Code, is to replace the only known, extremely deteriorated, syntype of *Cancer setosus* (currently *Pseudograpsus setosus*) Fabricius, 1798 with a neotype. *Cancer setosus* Fabricius, 1798 has been accepted by carcinologists as a senior subjective synonym of *Grapsus penicilliger* Latreille, 1817 and *Pseudograpsus barbatus* H. Milne Edwards, 1853 for 150 years, and as such it is essential that a recognizable type be available to the scientific community.

Keywords. Nomenclature; taxonomy; *Pseudograpsus setosus*; neotype; brachyuran crab.

1. This brachyuran crab was first described by Rumphius (1705, p. 26, pl. 10, fig. 2) as *Cancer barbatus*, from the Indonesian island of Ambon. Although the original description is very brief, the accompanying figure shows the diagnostic long, stiff black setae at the base of the fingers of the male chela clearly identifying this taxon. This species is not to be confused with *Cancer barbatus* Fabricius, 1793 (currently *Homola barbata*) in a different family, HOMOLIDAE.

2. Fabricius (1798, p. 339) briefly described *Cancer setosus* from 'Tranquebaria', India. He made no mention of *Cancer barbatus* Rumphius, 1705, and did not mention the stiff, black setae at the base of the fingers of the male chela, in his very brief description.

3. Latreille (1803, p. 372) reported on a crab from Tranquebar, referring to it only as 'Crabe Soyeux' (Silk Crab), but indicated that it was *Cancer setosus* Fabricius, 1798 (p. 339). In Cuvier's (1817) 'Le Règne Animal', Latreille (1817a, p. 16, pl. 12, fig. 1) described and illustrated the crab 'Grapse Porte-Pinçeau' (brush-carrying crab), attributing its original discovery to Rumphius (1705, p. 26, pl. 10, fig. 2). Subsequently, Latreille (1817b, p. 431) applied the binomen '*Grapsus penicilliger*' to his 'Grapse Porte-Pinçeau', again referring to Rumphius's figure, and highlighting the distinctive tufts of black setae at the bases of the fingers of the chela, and indicated that he had examined at least one specimen in the collection of the Muséum National d'Histoire Naturelle (MNHN), Paris.

4. Henri Milne Edwards (1837, p. 82) transferred *Grapsus penicilliger* Latreille, 1817, to a new genus *Pseudograpsus*. In a footnote, H. Milne Edwards (1837, p. 82) only listed Rumphius's (1705) pl. 10, fig. 2 although he did not mention the name

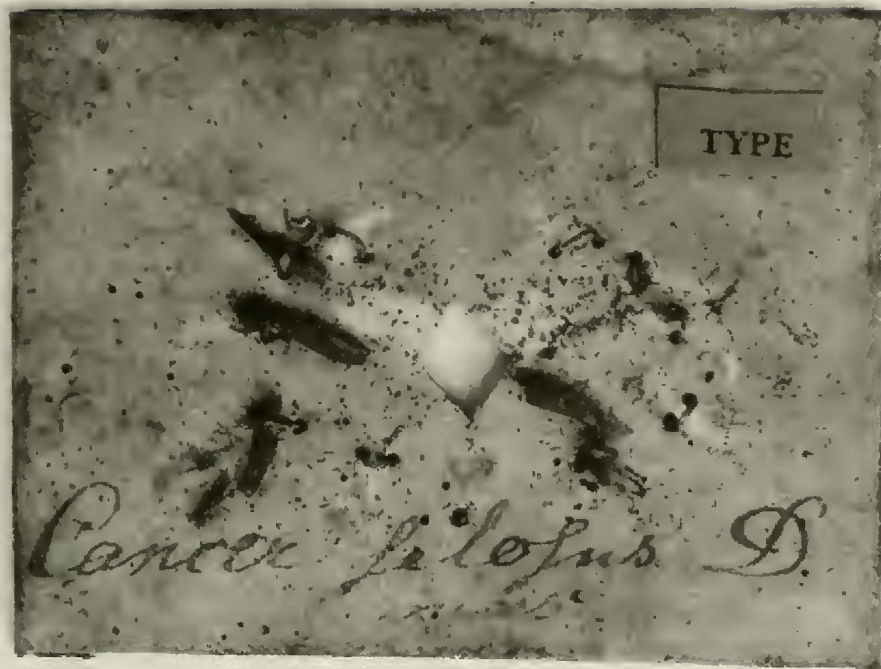
Cancer barbatus. Henri Milne Edwards (1837, p. 82) also listed *Grapsus penicilliger* Latreille, 1817 (p. 16, pl. 16, figs. 1, 2) and questionably *Cancer setosus* Fabricius, 1798 (p. 339) as synonyms of *Pseudograpsus penicilliger*. Like Latreille (1817a, p. 16; 1817b, p. 431), H. Milne Edwards (1837, p. 82) indicated that there were one or more specimens in the MNHN. Several years later, H. Milne Edwards (1853, p. 191) synonymised *Cancer setosus* Fabricius, 1798 and *Grapsus penicilliger* Latreille, 1817 with *Pseudograpsus barbatus* and credited the latter name to Rumphius (1705). However, as Rumphius's name is pre-Linnaean (Article 3.2 of the Code-Names, acts and information published before 1758), it is nomenclaturally unavailable. Therefore H. Milne Edwards (1853) is the de facto author of *Pseudograpsus barbatus*, and the name is a junior synonym of both *Cancer setosus* Fabricius, 1798 and *Grapsus penicilliger* Latreille, 1817.

5. *Grapsus penicilliger* and *Pseudograpsus barbatus* are both based, at least in part, on Rumphius's (1705, p. 16, pl. 10, fig. 2) work although his material is no longer extant. One of the present authors (NKN) examined the MNHN collections and found one dried, damaged male specimen (MNHN B-13213) labelled as *Pseudograpsus barbatus* from the 'Mers d'Asia', the locality cited by H. Milne Edwards (1837, p. 82) for *Grapsus penicilliger*. All available information suggests that this specimen is the one examined by Latreille and H. Milne Edwards. Ng et al. (2002, p. 768) designated this MNHN specimen as the lectotype of *Grapsus penicilliger* Latreille, 1817 and *Pseudograpsus barbatus* H. Milne Edwards, 1853.

6. H. Milne Edwards (1837, p. 82) originally proposed the genus *Pseudograpsus* with two species (*P. penicilliger* H. Milne Edwards and *P. pallipes* H. Milne Edwards) but designated no type species for the genus. Holthuis (1977, p. 162) designated *Grapsus penicilliger* Latreille, 1817 as the type species of *Pseudograpsus* H. Milne Edwards, 1837, but followed the currently accepted concept that Latreille's species was a junior synonym of *Cancer setosus* Fabricius, 1798.

7. Fabricius's (1798, p. 339) description of *Cancer setosus* was very brief and could in fact be applicable to several species. Although the description was specific about the outer surface of the chela being setose, no mention was made of the precise location or the kind of setae present. Surface setation is not a character unique to *Pseudograpsus setosus*, or even to members of the genus. Fabricius's description of *Cancer setosus* could easily apply to many species of *Pseudograpsus*, *Ptychognathus* Stimpson, 1858, *Pyxidognathus* A. Milne Edwards, 1879, *Hemigrapsus* Dana, 1851, *Eriocheir* De Haan, 1835, *Neoeriocheir* Sakai, 1976, *Platyeriocheir* Ng, Guo & Ng, 1999, *Scutumara* Ng & Nakasone, 1993, etc.

8. While the identities of *Grapsus penicilliger* and *Pseudograpsus barbatus* are clear, there is considerable doubt about the identity of *Cancer setosus*. Because Fabricius (1798, p. 339) made no mention of the highly diagnostic stiff, black setae at the base of the fingers of the chela in males, we cannot be certain that *Cancer setosus* Fabricius, 1798 is actually the senior subjective synonym of *Grapsus penicilliger* Latreille, 1817. Although this was suggested with doubt by H. Milne Edwards (1837, p. 82), it is now generally accepted by all carcinologists (see review in Ng et al., 2002). The fact that there are no confirmed specimens of any Indian Ocean species of the subfamily VARUNINAE with long, black, stiff setae on the outer surface of the male chela adds additional concern. Heller (1865, p. 52) reported *Pseudograpsus barbatus*



Scale bar = 1 cm

Fig. 1. *Cancer setosus* Fabricius, 1798—remaining pieces of syntype in ZMUC (photograph courtesy of T. Wolff)

from the Nicobar Islands and included the records of Rumphius (1705, p. 26, pl. 10, fig. 2) and Latreille (1817, p. 16, pl. 12, fig. 1) of *Grapsus penicilliger* Latreille, 1817, clearly treating these names as synonyms. There are no records of specimens of *Cancer setosus* from south-eastern India, the Andaman or Nicobar Islands (see Chopra & Das, 1937; Sethuramalingam & Khan, 1991). Olivia F. Fernando and Antony F. Fernando, from Annamalai University in southern India commented that they are not aware of the existence of this species from that area (Tranquebar) (pers. comm.), and the University Museum, which houses a collection of old Indian specimens, does not have this taxon. Additionally, Alcock (1900) made no mention of *Cancer setosus*, *Grapsus penicilliger* or *Pseudograpsus barbatus* in his synopsis of the Indian fauna. In March 2001, one of the authors (NKN) tried unsuccessfully to collect specimens from Tranquebar and the surrounding areas in Tamil Nadu State. Similarly, interviews with local biologists studying the fauna of the Tranquebar did not suggest the presence of any species of crab which had numerous long, stiff black setae on the chela.

10. Zimsen (1964, p. 650) reported that the only syntype of *Cancer setosus* present in the Zoological Museum of the University of Copenhagen (ZMUC) consisted only of a few small dried pieces. A photograph taken in the 1960's of these remains showed

only a few fragments of legs (four leg fragments on the left, and one leg fragment on the right) (see Fig. 1). These fragments have since been rehydrated, and were examined by one of the authors (PKLN). The fragments are in very poor condition, and it was not possible to even determine to what genus they might belong. The only existing type specimen of *Cancer setosus* is thus of no taxonomic value.

11. Ng et al. (2002, p. 760, figs. 1–4) identified specimens from Taiwan as *Pseudograpsus setosus* Fabricius, 1798, discussed the problems of the identity of Fabricius's species in detail and stressed the need for clarification of this matter. In view of the long standing acceptance by carcinologists of the synonymy of *Grapsus penicilliger* Latreille, 1817 and *Pseudograpsus barbatus* H. Milne Edwards, 1853 with *Cancer setosus* Fabricius, 1798, Ng et al. (2002, p. 771) stated that it would be desirable for the Commission to set aside the incomplete syntype in the collection of the Copenhagen Museum as the name-bearing type of *Cancer setosus*. To this effect, they also proposed a possible neotype for *Cancer setosus* Fabricius, 1798 from Ambon, the type locality of *Grapsus penicilliger* Latreille, 1817. We propose that the neotype so designated be the male specimen measuring 40.0 by 35.3 mm in the collection of the Nationaal Natuurhistorisch Museum, Leiden (RMNH-D-191), as had been proposed by Ng et al. (2002, p. 771).

12. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all type fixations for the nominal species *setosus* Fabricius, 1798, as published in the binomen *Cancer setosus*, and to designate specimen RMNH-D-191 at the Nationaal Natuurhistorisch Museum, Leiden as the neotype;
- (2) to place on the Official List of Specific Names in Zoology the name *setosus* Fabricius, 1798, as published in the binomen *Cancer setosus* and as defined by the neotype designated in (1) above.

References

- Alcock, A. 1900. Materials for a carcinological fauna of India. No. 6. The Brachyura Catometopa or Grapsoidea. *Journal of the Asiatic Society of Bengal*, **69**(2): 279–456.
- Chopra, B. & Das, K.N. 1937. Further notes on the Crustacea Decapoda in the Indian Museum. IX. On three collections of crabs from Tavoy and Mergui Archipelago. *Records of the Indian Museum*, **39**: 423–434.
- Dana, J.D. 1851. Conspectus Crustaceanorum quae in Orbis Terrarum circumnavigatione, Carolo Wilkes e Classe Reipublicae Faederatae Duce, lexit et descripsit J.D. Dana. *Proceedings of the Academy of Natural Sciences of Philadelphia*, **5**: 247–254, 267–272.
- Fabricius, J.C. 1798. *Supplementum Entomologiae systematicae*. 572 pp. Copenhagen.
- Haan, W. de. 1833–1850. Crustacea. Pp. 1–243. In Siebold, P.F. von (Ed.), *Fauna Japonica sive Descriptio animalium, quae in itinere per Japoniam, jussu et auspiciis, superiorum, qui summum in India Batava imperium tenent, suscepto, annis 1823–1830 Collegit, Notis, Observationibus et Adumbrationibus illustravit*. Lugduni-Batavorum.
- Heller, C. 1865. *Die Crustaceen. Reise der Oesterreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859 unter den Befehlen des Commodore B. von Wüllerstorf-Urbair*. Zoologischer, vol. 2(3). 280 pp., 25 pls. Wien.
- Holthuis, L.B. 1959. Notes on pre-Linnean carcinology (including the study of Xiphora) of the Malay Archipelago. Pp. 63–125 in Wit, H.C.D. de, *Rumphius Memorial Volume*. Uitgererij en Drukkerij Hollandia N.V., Baarn.
- Holthuis, L.B. 1977. The Grapsidae, Gecarcinidae and Palicidae (Crustacea: Decapoda: Brachyura) of the Red Sea. *Israel Journal of Zoology*, **26**: 141–192.

- Holthuis, L.B.** 1978. A collection of decapod crustacea from Sumba, Lesser Sunda Islands, Indonesia. *Zoologische Verhandelingen*, **162**: 1–55.
- Kingsley, J.S.** 1880. Carcinological notes. No. 4. Synopsis of the Grapsidae. *Proceedings of the Academy of Natural Sciences of Philadelphia*, **1880**: 187–224.
- Latreille, P.A.** 1803. *Histoire naturelle, générale et particulière des crustacés et des insectes*. 468 pp. De l'Imprimerie de F. Dufart, Paris.
- Latreille, P.A.** 1817a. Les Crustacés, les Arachnides et les Insectes. In Cuvier, G. (Ed.), *Le Règne Animal*, vol. 3. xxix, 653 pp. De l'Imprimerie de A. Belin, Paris.
- Latreille, P.A.** 1817b. Grapsus. P. 431 in: *Nouveau Dictionnaire d'Histoire naturelle*. Ed. 2, vol. 13. Paris.
- Latreille, P.A.** 1825. Plagusie, *Encyclopédie méthodique: histoire naturelle des insectes*, vol. 10. Pp. 145–148. Paris.
- Latreille, P.A.** 1829. *Les crustacés, les arachnides et les insectes, distribués en familles naturelles. Ouvrage format les Tomes 4 et 5 de celui de M. Le Baron Cuvier sur Le Règne Animal*. 584 pp. Paris.
- MacLeay, W.S.** 1838. Illustrations of the Annulosa of South Africa; being a Portion of the Objects of Natural History Chiefly Collected During an Expedition into the Interior of South Africa, under the Direction of Dr. Andrew Smith, in the Years 1834, 1835 and 1836: Fitted Out by 'The Cape of Good Hope Association for Exploring Central Africa'. In: A. Smith, *Illustrations of the Zoology of South Africa; Consisting Chiefly of Figures and Descriptions of the Objects of Natural History Chiefly Collected During an Expedition into the Interior of South Africa, under the Direction of Dr. Andrew Smith, in the Years 1834, 1835 and 1836: Fitted Out by 'The Cape of Good Hope Association for Exploring Central Africa'*, vol. 5, (Invertebrates). 75 pp., 4 pls. London.
- Milne Edwards, H.** 1837. *Histoire naturelle des Crustacés, comprenant l'anatomie, la physiologie et la classification de ces animaux*, vol. 2. 531 pp., Atlas 32, 42 pls. Librairie Encyclopédique de Roret, Paris.
- Milne Edwards, H.** 1853. Mémoire sur la famille des Ocypodiens. Suite, *Annales des Sciences Naturelles. Zoologie et Biologie Animale*, **20**(3): 163–228.
- Milne Edwards, H.** 1873. Recherches sur la faune carcinologique de la Nouvelle-Calédonie, Deuxième Partie. *Nouv. Arch. Mus. d'Hist. Nat. (Paris)*, **9**: 155–332, pls. 4–18.
- Milne Edwards, A.** 1873–1881. Études sur les Xiphosures et les Crustacés de la région Mexicaine. In: *Recherches Zoologiques pour servir à l'histoire de la faune de l'Amérique centrale et du Mexique*, vol. 5. 368 pp., pls. 1–61.
- Ng, N.K., Guo, J. & Ng, P.K.L.** 1999. On the generic affinities of *Eriocheir leptognathus* Rathbun, 1913 and *Eriocheir formosa* Chan, Hung and Yu, 1995, with description of a new genus (Crustacea: Grapsidae: Varuninae). *Journal of crustacean biology*, **19**(1): 154–170.
- Ng, N.K., Jeng, M.S. & Ng, P.K.L.** 2002. On the taxonomy of *Pseudograpsus setosus* (Fabricius, 1778) (Decapoda, Brachyura, Grapsidae). *Crustaceana*, **75**(6): 759–776.
- Ng, N.K. & Komai, T.** 2000. On the male of *Scutumara enodis* Ng & Nakasone, 1993 (Crustacea: Decapoda: Brachyura: Grapsidae). *Proceedings of the Biological Society of Washington*, **113**(1): 48–53.
- Ng, P.K.L. & Nakasone, Y.** 1993. *Scutumara enodis*, a new genus and species of grapsid crab (Decapoda: Grapsidae) from Okinawa, Ryukyus, Japan. *Crustacean Research*, **12**: 1–6.
- Rumphius, G.E.** 1705. *D'Amboinsche Rareitkamer, behelzende eene beschryvinge van allerhande zoo weeke als harde Schaalvischen, te weeten raare Krabben, Kreeften, en diergelyke Zeedieren, als mede allerhande Hoorntjes en Schulpen, die men in d'Amboinsche Zee vindt: Daar beneven zommige Mineraalen, Gesteenten, en soorten van Aarde, die in d'Amboinsche, en zommige omleggende Eilanden gevonden worden*, vol. 28. 340 pp. 60 pls. Amsterdam.
- Sakai, T.** 1976. *Crabs of Japan and the adjacent seas*. Volume 1 [English Text]: Pp. xxix, 773, figs. 1–379, maps 1–3; volume 2 [Japanese Text]: Pp. 1–461, figs. 1–2; volume 3 [Plates]: Pp. 1–61, pls. 1–251. Kondasha, Tokyo.
- Sethuramalingam, S. & Ajami Khan, S.** 1991. *Brachyuran crabs of Parangipettai Coast*. 1–93 pp., 28 pls. Annamalai University, Parangipettai.

- Stimpson, W.** 1858. Prodrromus descriptionis Animalium evertebratorum, quae in expeditione ad Oceanum Pacificum Septentrionalem, a Republica Federata missa, Cadwaladaro Ringgold et Johanne Rodgers Ducibus, observavit et descripsit, pt 5, Crustacea Ocypodoidea. *Proceedings of the Academy of Natural Sciences of Philadelphia*, **10**: 93–111.
- Zimsen, E.** 1964. *The type material of J.C. Fabricius*. 656 pp., 2 pls. Copenhagen.

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